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REMARKS

The Examiner's Office Action of December 27, 2004 has been received and its contents reviewed. Applicants would like to thank the Examiner for the consideration given to the above-identified application. Claims 1, 3-6, 8-13, 15-18, 20-23, 25-27 and 41-56 are pending for consideration, of which claims 1, 6, 11, 18, 23, 45, 49 and 53 are independent. By the actions above and the remarks below, Applicants respectfully request reconsideration and allowance of all the pending claims.

Referring now to the detailed Office Action, claims 1, 3-6, 8-13, 15-18, 20-23, 25-27, 41-44 and 45-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Office Action indicates that there is no antecedent basis and exact support for the new language added to the pending claims and the language in new claims 41-56 added in the Preliminary Amendment. The Office Action contends that there is no support for the recitation of first and second portions having different crystallinities. In view of the comments to follow, Applicants respectfully traverse this rejection.

Specifically, as indicated in the Preliminary Amendment, Applicants submit that the specification at page 5, lines 19-22 do support such a feature. This portion of the specification is as follows:

The upper layer in the channel region is a semiconductor film having an amorphous or crystalline structure. On the other hand, the lower layer in the channel region is a semiconductor film having a crystalline structure.

Moreover, original dependent claim 13 (now cancelled) which recited "wherein the second semiconductor layer has an amorphous layer" provides further support for such a feature.

Applicants submit that these portions of the specification provide support for the claim feature regarding the higher crystallinity. The examiner appears to be concerned that there is not exact support for this claimed feature. However, the Federal Circuit in *Union Oil Co. of California v. Atlantic Richfield Co.*, 208 F3d 989, 54 USPQ2s 1227; (Fed. Cir. 2000) makes it clear that precise recitation of the claim limitation in disclosure is not a requirement for "written description" to be satisfied, i.e., the invention does not have to be described *ipsis*

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verbis in order to satisfy the description requirement of §112. In view of the foregoing, it is believed that the rejection under Section 112, first paragraph, should be withdrawn.

On page 3 of the Office Action, claims 1, 3-6, 8-13, 15-18, 20-23, 25-27, 41-56 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,083,324 to Henley et al. (hereinafter Henley). Specifically, the Office Action contends that the gettering layer 807 has "less" crystallinity than "channel" regions. Applicants traverse this rejection.

As previously discussed, the present invention is directed to a semiconductor device (claim 1) including a semiconductor layer having a crystalline structure on an insulating surface wherein the semiconductor layer includes at least a source, a drain and a channel region. The channel region includes a rare gas element having a concentration gradient. The channel region further has at least a first portion and a second portion where the second portion is more distant from the insulating surface than the first portion. Further, the crystallinity of the first portion in the channel region is higher than that of the second portion in the channel region. The device may also include a first and a second semiconductor layer where the second semiconductor layer includes the rare earth element having a concentration gradient and the first semiconductor layer has a higher concentration than the second semiconductor layer (claim 11).

Independent claims 1, 6, 18 and 23 variously recite that the crystallinity of the first portion in the channel region is higher than that of the second portion in the channel region. Independent claim 11 recites that the crystallinity of the first semiconductor layer is higher than that of the second semiconductor layer.

Independent claim 45 is directed to a semiconductor device in which the channel region contains a rare gas element having a concentration gradient; claim 49 is directed to a semiconductor device in which a rare gas element having a concentration gradient is contained between the channel region and the insulating film; and independent claim 53 is directed to a semiconductor device in which the second semiconductor layer contains a rare gas element having a concentration gradient.

In reviewing the Henley patent, Applicants can find no teaching of the claimed varying crystallinities nor the claimed concentration gradients in Henley. Initially, Applicants note that a "channel" is not explicitly taught in Henley. Applicants note that the

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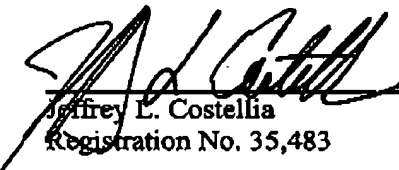
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active region 805 (formed under a gate electrode and the first gettering layer 807) does not function as a channel. In fact, Applicants submit that Henley fails to teach that the active region 805 has a first portion and a second portion with different crystallinities or that the active region 805 contains a rare gas element. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection. If the Examiner continues to maintain this rejection, Applicants respectfully request that a more specific rejection be provided addressing and providing alleged support within Henley for each claim feature.

In view of the comments above, Applicants respectfully request reconsideration and withdrawal of all the pending rejections.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise which could be eliminated through discussions with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Respectfully submitted,



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